

We Claim:

1. An article comprising gate electrode, gate dielectric, source electrode, and drain electrode features, a semiconductor layer, a substrate, and a shadow mask comprising an aperture; wherein said shadow mask is permanently affixed to said substrate and said source and drain electrode features are defined by said aperture.
2. The article of 1 wherein the substrate is flexible.
3. The article of claim 1 wherein said semiconductor layer is organic.
4. The article of claim 1 wherein said semiconductor layer is inorganic.
5. The article of claim 3 wherein said semiconductor layer comprises pentacene or substituted pentacene.
6. The article of claim 4 wherein said semiconductor layer comprises amorphous silicon.
7. The article of claim 3 having source and drain electrode features on top of said semiconductor layer.
8. An article comprising gate electrode, gate dielectric, source electrode, and drain electrode features, a first semiconductor feature, a second semiconductor feature, a substrate, and a shadow mask comprising an aperture; wherein said shadow mask is permanently affixed to said substrate, said semiconductor features are defined by said aperture, and at least a portion of each said semiconductor feature does not overlap the other semiconductor feature.
9. The article of claim 8 wherein the substrate is flexible.

10. The article of claim 8 wherein both said first semiconductor feature and said second semiconductor feature are inorganic.

5 11. The article of claim 8 wherein at least one of said semiconductor features is organic.

12. The article of claim 11 wherein at least one of said semiconductor features comprises pentacene or substituted pentacene.

10 13. The article of claim 8 wherein at least one of said semiconductor features comprises amorphous silicon.

14. The article of claim 1 wherein said aperture is wider at its bottom than at its top.

15 15. The article of claim 1 wherein the gate dielectric feature completely covers the gate electrode feature.

16. A radio frequency identification tag comprising the article of claim 1.

20 17. A radio frequency identification tag comprising the article of claim 8.

18. A sensor device comprising the article of claim 1.

25 19. A sensor device comprising the article of claim 8.

20. A display device comprising the article of claim 1.

21. A display device comprising the article of claim 8.

30 22. The article of claim 1 wherein the article is an integrated circuit.

23. The article of claim 8 wherein the article is an integrated circuit.